



Docket No. BFGHP0210USA

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**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re **PATENT** application of:

Applicants: Thomas R. Moreland & Kurt M. Tauscher

Application No.: 09/768,885

For: ELECTRICALLY HEATED AIRCRAFT DEICER PANEL  
WITH STITCHED HEATER STRAND (*as amended*)

Filing Date: January 23, 2001

Examiner: John A. Jeffery

Art Unit: 3742

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**REPLY BRIEF**

Commissioner for Patents  
Washington, D.C. 20231

Dear Sir:

Applicant submits this brief in connection with the appeal of the above-identified case.

**Grouping of Claims**

The Examiner contends in his answer that "there is no independent reason given why issue C should not stand or fall together with Issue A." Issue A concerns whether claims 13, 14 and 16-22 are patentable under 35 U.S.C. §103 over U.S. Patent No. 2,653,320 to Pfenninger in view of U.S. Patent No. 1,142,393 to Bloomer, while Issue C concerns whether claims 29-32 are patentable under 35 U.S.C. §103 over Pfenninger in view of Bloomer, and further in view of U.S. Patent No. 2,599,059 to Jones. As such, applicants were required to address the Jones reference in connection with Issue C. In the appeal brief, it was noted that whatever Jones teachings may be regarding cement, it did nothing to cure the shortcomings of the proposed Pfenninger/Bloomer combination.

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### **New Points of Argument**

The Examiner raises new points of argument in his answer when he asserts that that certain advantages or benefits "are well known in the art" and then uses these to justify the Pfenninger/Bloomer combination. The allegedly "well known" advantages/benefits include:

- facilitating heating element attachment via automated techniques such as programmable sewing machines;
- enabling precise control over the heating element pattern via automated sewing machines; and/or
- the ability to obtain a wide variety of different geometric heating element patterns merely by selecting pre-programmed stitching patterns.

It is respectfully submitted that the applied art does not support the "well known-ness" of these alleged benefits.<sup>1</sup> Specifically, Pfenninger does not appear to provide any indication that automated techniques, precise control over the heating element pattern, and/or a wide variety of different geometric patterns are desired or even necessary in a deicer construction. As for the Bloomer reference, it is a 1915 patent which discloses a heating pad secured to a canton flannel material "whereby when the pad is placed in direct contact with the body" it "will relieve harshness." Certainly, this reference cannot be viewed as teaching the advantages of "programmable sewing machines," "automated sewing machines," and/or "pre-programmed stitching patterns."

The Examiner also contends that "[s]uch ease and flexibility in changing the overall heating element pattern via the selection of a desired stitching pattern would simply not be possible with a wound heating element such as that shown by

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1. Certain advantages were appreciated by applicants and noted in their specification. However, it is respectfully submitted that using applicants' appreciation to justify an obviousness rejection would be inappropriate.

Pfenninger.” However, this “ease and flexibility” is not taught by Bloomer. Moreover, Pfenninger does not support the proposition that changing the heating pattern of a deicer would be any easier with a stitched element than with a wound element. There is no indication in either of the applied art references that would lead one to believe that the geometry of the Pfenninger wound heating element could not be easily and/or flexibly changed.

The Examiner further contends that “the ability to easily change the heating element pattern geometry enables the manufacture of custom-tailored heating pads specially adapted for particular heating application.” Again, this “easy changeability” does not appear to be shown or suggested by the applied art. Nor does Pfenninger provide any indication that a change in the deicer manufacturing method is necessary to accomplish a custom-tailored deicer or even that custom-tailored deicers are desired, for that matter.

The Bloomer patent does teach that, in the manufacture of heating pads, using a stitched heating pattern allows the pad to be “cheaply manufactured with great speed.” However, there is no indication in the applied art that using such a stitched pattern in a deicer panel could or would also translate into such economic advantages. The 1953 Pfenninger patent provides no suggestion to incorporate the teachings of the 1915 Bloomer patent into the manufacture of its deicer panel.

The Bloomer patent also teaches that with its stitching method, “a greater number of feet of resistance conductor in a given length is obtained than in such heating pads wherein the conductor is laid thereon and secured in any ordinary manner.” However, the applied art provides absolutely no indication that this increase in resistance is necessary or desired in the deicer art. Also, as explained in the initial appeal brief, the purpose of a deicer panel is not to heat an entire airfoil structure, but rather to remove ice from its accumulated surface.<sup>2</sup>

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2. The Examiner comments that “if the heating element of Pfenninger were stitched to the underlying substrate as suggested by Bloomer, one would have a heater that was . . . securely mounted.” Again, neither Bloomer nor Pfenninger appear to suggest that there are any “mounting” problems associated with wound heater elements.

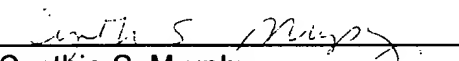
The Examiner also appears to raise a new point of argument when he notes that "since Bloomer expressly states that electric heating wire can be sewn with a sewing machine, one of ordinary skill in the art would indeed be motivated to turn to the teachings of JP '268." The Board is asked to please note that appellant is not asserting that it would not have been obvious to replace the presumably manual sewing machine in Bloomer with an automated sewing machine. Instead, appellant is respectfully submitting that this still would not be enough to motivate one to incorporate an "automated stitching procedure" into a deicer panel. Pfenninger does not appear to provide any indication that these advantages are necessary or even desired in the deicer art.

### Conclusion

In view of the foregoing, appellant again respectfully submits that the claims are patentable over the applied art and that the final rejection should be reversed. This brief is being submitted in triplicate.<sup>3</sup>

Respectfully submitted,

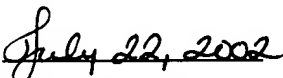
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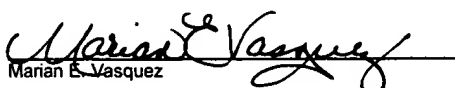
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I hereby certify that this paper (along with any paper or item referred to as being attached or enclosed) is being deposited with the United States Postal Service on the date shown below with sufficient postage as first-class mail in an envelope addressed to Assistant Commissioner for Patents, Washington, D.C. 20231.

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Marian E. Vasquez

3. Should a petition for an Extension of Time be necessary for the timely filing of this brief (or if such a petition has been made and an additional extension is necessary), petition is hereby made and the Commissioner is authorized to charge any fees (including additional claim fees) to Deposit Account No. 18-0988, Order No. BFGHP0210USA.